
Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2010; month=12; day=29; hr=8; min=50; sec=33; ms=591;]

Validated By CRFValidator v 1.0.3

Application No: 10565058 Version No: 2.0

Input Set:

Output Set:

Started: 2010-12-14 17:53:30.472

Finished: 2010-12-14 17:53:34.828

Elapsed: 0 hr(s) 0 min(s) 4 sec(s) 356 ms

Total Warnings: 41
Total Errors: 0

No. of SeqIDs Defined: 159

Actual SeqID Count: 159

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W	213	Artificial o	r	Unknown	found	in	<213>	in	SEQ	ID	(35)
W	213	Artificial o	r	Unknown	found	in	<213>	in	SEQ	ID	(36)

Input Set:

Output Set:

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Total Errors: 0

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Error code Error Description

This error has occured more than 20 times, will not be displayed

SEQUENCE LISTING

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		GB 0													
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His	Туг	: Ile	Leu 20	Gly	Asp	Thr	Leu	Gly 25	Val	Gly	Thr	Phe	Gly 30	Lys	Val
Lys	Val	. Gly 35	Lys	His	Glu	Leu	Thr 40	Gly	His	Lys	Val	Ala 45	Val	Lys	Ile
Leu	Asr 50	n Arg	Gln	Lys	Ile	Arg 55	Ser	Leu	Asp	Val	Val 60	Gly	Lys	Ile	Arg
Arg 65	Glu	ı Ile	Gln	Asn	Leu 70	Lys	Leu	Phe	Arg	His 75	Pro	His	Ile	Ile	Lys 80
Leu	Tyr	Gln	Val	Ile 85	Ser	Thr	Pro	Ser	Asp	Ile	Phe	Met	Val	Met 95	Glu

Tyr Val Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys Asn Gly Arg

100 105 110

Leu Asp Glu Lys Glu Ser Arg Arg Leu Phe Gln Gln Ile Leu Ser Gly 115 120 Val Asp Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro 135 Glu Asn Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe 155 160 150 Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys 165 170 Gly Ser Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr 180 185 190 Ala Gly Pro Glu Val Asp Ile Trp Ser Ser Gly Val Ile Leu Tyr Ala 195 200 Leu Leu Cys Gly Thr Leu Pro Phe Asp Asp Asp His Val Pro Thr Leu 210 215 220 Phe Lys Lys Ile Cys Asp Gly Ile Phe Tyr Thr Pro Gln Tyr Leu Asn 230 235 225 Pro Ser Val Ile Ser Leu Leu Lys His Met Leu Gln Val Asp Pro Met 250 245 255 Lys Arg Ala Thr Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln 260 265 270 Asp Leu Pro Lys Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Ser Ser Thr 275 280 285 Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys 290 295 300 Ser Glu Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp 315 305 310

Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met

330

335

Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe 345 Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe 360 365 Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn 370 375 380 Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu 385 390 395 Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys 405 410 Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr 425 420 Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys 435 440 Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp 450 455 460 Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala 465 470 475 480 Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg 485 490 Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu 500 505 510 Thr Ser Ser Val Thr Ser Leu Asp Ser Ser Pro Val Asp Leu Thr Pro 520 515 Arg Pro Gly Ser His Thr Ile Glu Phe Phe Glu Met Cys Ala Asn Leu 530 535 540 Ile Lys Ile Leu Ala Gln

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Leu Asn Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Arg
                55
   50
                              60
Arg Glu Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys
65 70 75 80
Leu Tyr Gln Val Ile Ser Thr Pro Ser Asp Ile Phe Met Val Met Glu
              90
          85
Tyr Val Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys Asn Gly Arg
               105 110
      100
Leu Asp Glu Lys Glu Ser Arg Arg Leu Phe Gln Gln Ile Leu Ser Gly
 115 120
Val Asp Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro
               135
                         140
  130
Glu Asn Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe
145 150 155 160
Gly Leu Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys
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Gly Ser Pro Asn Tyr Ala Ala Pro Glu Val Ile Ser Gly Arg Leu Tyr
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Ala Gly Pro Glu Val Asp Ile Trp Ser Ser Gly Val Ile Leu Tyr Ala

195 200 205

Leu Leu Cys Gly Thr Leu Pro Phe Asp Asp Asp His Val Pro Thr Leu 210 215 220 Phe Lys Lys Ile Cys Asp Gly Ile Phe Tyr Thr Pro Gln Tyr Leu Asn 230 235 Pro Ser Val Ile Ser Leu Leu Lys His Met Leu Gln Val Asp Pro Met 245 250 255 Lys Arg Ala Ser Ile Lys Asp Ile Arg Glu His Glu Trp Phe Lys Gln 265 260 Asp Leu Pro Lys Tyr Leu Phe Pro Glu Asp Pro Ser Tyr Ser Ser Thr 275 280 285 Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys 290 295 300 Ser Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp 310 315 320 Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met 325 330 Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe 345 340 350 Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe 355 360 365 Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn 370 375 380 Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu 385 390 395 400 Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys 410 405

Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr

425

430

Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys
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Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp 450 455 460

Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala 465 470 475 480

Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg 485 490 495

Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu 500 505 510

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<211> 550

<212> PRT

<213> Homo sapiens

<400> 3

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Lys Val Gly Lys His Glu Leu Thr Gly His Lys Val Ala Val Lys Ile
35 40 45

Leu Asn Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Arg 50 55 60

Arg 65	Glu	Ile	Gln	Asn	Leu 70	Lys	Leu	Phe	Arg	His 75	Pro	His	Ile	Ile	Lys 80
Leu	Tyr	Gln	Val	Ile 85	Ser	Thr	Pro	Ser	Asp 90	Ile	Phe	Met	Val	Met 95	Glu
Tyr	Val	Ser	Gly 100	Gly	Glu	Leu	Phe	Asp 105	Tyr	Ile	Cys	Lys	Asn 110	Gly	Arg
Leu	Asp	Glu 115	Lys	Glu	Ser	Arg	Arg 120	Leu	Phe	Gln	Gln	Ile 125	Leu	Ser	Gly
Val	Asp 130	Tyr	Суз	His	Arg	His 135	Met	Val	Val	His	Arg 140	Asp	Leu	Lys	Pro
Glu 145	Asn	Val	Leu	Leu	Asp 150	Ala	His	Met	Asn	Ala 155	Lys	Ile	Ala	Asp	Phe 160
Gly	Leu	Ser	Asn	Met 165	Met	Ser	Asp	Gly	Glu 170	Phe	Leu	Arg	Thr	Ser 175	Суз
Gly	Ser	Pro	Asn 180	Tyr	Ala	Ala	Pro	Glu 185	Val	Ile	Ser	Gly	Arg 190	Leu	Tyr
Ala	Gly	Pro 195	Glu	Val	Asp	Ile	Trp 200	Ser	Ser	Gly	Val	Ile 205	Leu	Tyr	Ala
Leu	Leu 210	Суз	Gly	Thr	Leu	Pro 215	Phe	Asp	Asp	Asp	His 220	Val	Pro	Thr	Leu
225					230					235			_	Leu	240
				245					250					Pro 255	
Lys	Arg	Ala	Ser 260	Ile	Lys	Asp	Ile	Arg 265	Glu	His	Glu	Trp	Phe 270	Lys	Gln
Asp	Leu	Pro 275	Lys	Tyr	Leu	Phe	Pro 280	Glu	Asp	Pro	Ser	Tyr 285	Ser	Ser	Thr

Met Ile Asp Asp Glu Ala Leu Lys Glu Val Cys Glu Lys Phe Glu Cys

290 295 300

Ser Glu Glu Glu Val Leu Ser Cys Leu Tyr Asn Arg Asn His Gln Asp 310 315 320 305 Pro Leu Ala Val Ala Tyr His Leu Ile Ile Asp Asn Arg Arg Ile Met 325 330 Asn Glu Ala Lys Asp Phe Tyr Leu Ala Thr Ser Pro Pro Asp Ser Phe 340 345 350 Leu Asp Asp His His Leu Thr Arg Pro His Pro Glu Arg Val Pro Phe 365 355 360 Leu Val Ala Glu Thr Pro Arg Ala Arg His Thr Leu Asp Glu Leu Asn 370 375 380 Pro Gln Lys Ser Lys His Gln Gly Val Arg Lys Ala Lys Trp His Leu 385 390 395 400 Gly Ile Arg Ser Gln Ser Arg Pro Asn Asp Ile Met Ala Glu Val Cys 405 410 415 Arg Ala Ile Lys Gln Leu Asp Tyr Glu Trp Lys Val Val Asn Pro Tyr 420 425 Tyr Leu Arg Val Arg Arg Lys Asn Pro Val Thr Ser Thr Tyr Ser Lys 435 440 445 Met Ser Leu Gln Leu Tyr Gln Val Asp Ser Arg Thr Tyr Leu Leu Asp 450 455 460 Phe Arg Ser Ile Asp Asp Glu Ile Thr Glu Ala Lys Ser Gly Thr Ala 475 470 465 Thr Pro Gln Arg Ser Gly Ser Val Ser Asn Tyr Arg Ser Cys Gln Arg 485 490 495 Ser Asp Ser Asp Ala Glu Ala Gln Gly Lys Ser Ser Glu Val Ser Leu 505 510 500

Thr Ser Ser Val Thr Ser Leu Asp Ser Ser Pro Val Asp Leu Thr Pro

525

520

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<210> 4

<211> 520

<212> PRT

<213> Homo sapiens

<400> 4

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Arg Gln Lys Ile Arg Ser Leu Asp Val Val Gly Lys Ile Lys Arg Glu 20 25 30

Ile Gln Asn Leu Lys Leu Phe Arg His Pro His Ile Ile Lys Leu Tyr 35 40 45

Gln Val Ile Ser Thr Pro Thr Asp Phe Phe Met Val Met Glu Tyr Val 50 55 60

Ser Gly Gly Glu Leu Phe Asp Tyr Ile Cys Lys His Gly Arg Val Glu 65 70 75 80

Glu Met Glu Ala Arg Arg Leu Phe Gln Gln Ile Leu Ser Ala Val Asp
85 90 95

Tyr Cys His Arg His Met Val Val His Arg Asp Leu Lys Pro Glu Asn $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110 \hspace{1.5cm}$

Val Leu Leu Asp Ala His Met Asn Ala Lys Ile Ala Asp Phe Gly Leu 115 120 125

Ser Asn Met Met Ser Asp Gly Glu Phe Leu Arg Thr Ser Cys Gly Ser 130 135 140

FIO GI	, vai	АБР	165	rrp	Del	Cys	Gly	170	116	пец	TYT	Ala	175	Leu
Cys Gl	y Thr	Leu 180	Pro	Phe	Asp	Asp	Glu 185	His	Val	Pro	Thr	Leu 190	Phe	Lys
Lys Il	e Arg 195	Gly	Gly	Val	Phe	Tyr 200	Ile	Pro	Glu	Tyr	Leu 205	Asn	Arg	Ser
Val Ala 21		Leu	Leu	Met	His 215	Met	Leu	Gln	Val	Asp 220	Pro	Leu	Lys	Arg
Ala Th		_	-	230	-				235		-		-	240
Pro Se			245					250					255	
Asp Asp		260					265					270		
Ser Gl	275					280					285			
29 Ala Se:)	-			295					300				
305				310					315					320
Arg Me			325					330		-			335	
Asp Ala		340					345					350		
•	355				4	360	_					4	-	

Pro Glu Val Asp Ile Trp Ser Cys Gly Val Ile Leu Tyr Ala Leu Leu